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<110> Pickard, Benjamin Simon
Blackwood, Douglas
Porteous, David
Muir, Walter John
Mors, Ole
Ewald, Henrik Lykke

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taattaaatg aagccaagtg ggatttgcac aaagtgaatg tttaccatga agataaactg     1020
ttcctgactt tatactatatt tgaattc                                     1047

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<210> 15
<211> 348
<212> PRT
<213> Homo sapiens

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<400> 15

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Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
1           5           10           15

```

```

Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
          20           25           30

```

```

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
          35           40           45

```

```

Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
          50           55           60

```

```

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
65           70           75           80

```

```

Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln
          85           90           95

```

```

Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu
          100          105          110

```

```

Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe
          115          120          125

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Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn
130 135 140

Met Asn Ser Ala Pro Thr Phe Met His Phe Pro Pro Lys Gly Arg Pro
145 150 155 160

Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu
165 170 175

Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val
180 185 190

Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val
195 200 205

Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu Glu Phe
210 215 220

Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe
225 230 235 240

Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr
245 250 255

Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His Gly Ser
260 265 270

Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val Leu Asn
275 280 285

Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala Thr Ser
290 295 300

Lys Gly Asp Val Gly Lys Arg Arg Ile Ile Cys Leu Val Gly Leu Gly
305 310 315 320

Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg Ser Lys
325 330 335

Tyr His Gly Tyr Pro Tyr Ser Asp Leu Asp Phe Glu
340 345

<210> 16
<211> 982
<212> DNA
<213> Homo sapiens

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<400> 16
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cgaatgaatg gtgataaatt ccgaaaatth ataaaggcac cacctcgaaa ctattccatg      120
attgttatgt tcaactgctct tcagcctcag cggcagtggt ctgtgtgcag gcaagctaatt      180
gaagaatatc aaatactggc gaactcctgg cgctattcat ctgctttttg taacaagctc      240
ttcttcagta tgggtggacta tgatgagggg acagacgtht ttcagcagct caacatgaac      300
tctgctccta cattcatgca ttttcctcca aaaggcagac ctaagagagc tgatacttht      360
gacctccaaa gaattggatt tgcagctgag caactagcaa agtggattgc tgacagaacg      420
gatgttcata ttcgggttht cagaccaccc aactactctg gtaccattgc tttggccctg      480
ttagtgctgc ttgttgaggg tttgcttht ttgagaagga acaacttgga gttcatctat      540
aacaagactg gttgggcat ggtgtctctg tgtatagtct ttgctatgac ttctggccag      600
atgtggaacc atatccgtgg acctccatat gtcataaga acccacacaa tggacaagtg      660
agctacattc atgggagcag ccaggctcag tttgtggcag aatcacacat tattctggta      720
ctgaatgccg ctatcaccat ggggatggtt cttctaaatg aagcagcaac ttcgaaaggc      780
gatgttgga aaagacggat aatttgcta gtgggattgg gcctggtggt cttcttcttc      840
agttttctac tttcaatatt tcgttccaag taccacggct atccttatag ctttttaatt      900
aaatgaagcc aagtgggatt tgcataaagt gaatgtttac catgaagata aactgttcct      960
gactttatac tattttgaat tc                                          982

```

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<210> 17
<211> 347
<212> PRT
<213> Homo sapiens

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<400> 17

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```

Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
1          5          10          15

```

```

Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
20          25          30

```

```

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
35          40          45

```

```

Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
50          55          60

```

```

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro

```

65		70		75		80
Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln						
		85		90		95
Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu						
		100		105		110
Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe						
		115		120		125
Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn						
		130		135		140
Met Asn Ser Ala Pro Thr Phe Met His Phe Pro Pro Lys Gly Arg Pro						
		145		150		155
Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu						
		165		170		175
Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val						
		180		185		190
Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val						
		195		200		205
Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu Glu Phe						
		210		215		220
Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe						
		225		230		235
Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr						
		245		250		255
Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His Gly Ser						
		260		265		270
Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val Leu Asn						
		275		280		285
Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala Thr Ser						
		290		295		300
Lys Gly Asp Val Gly Lys Arg Arg Ile Ile Cys Leu Val Gly Leu Gly						
		305		310		315
						320

Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg Ser Lys
 325 330 335

Tyr His Gly Tyr Pro Tyr Ser Phe Leu Ile Lys
 340 345

<210> 18
 <211> 752
 <212> DNA
 <213> Homo sapiens

<400> 18
 aatcttttag ctgaaaaagt agagcagctg atggaatgga gttccagacg ctcaatcttc 60
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 attgttatgt tcaactgctct tcagcctcag cggcagtgtt ctgtgtgcag gcaagctaata 180
 gaagaatatc aaatactggc gaactcctgg cgctattcat ctgctttttg taacaagctc 240
 ttcttcagta tgggtggacta tgatgagggg acagacgttt ttcagcagct caacatgaac 300
 tctgctccta cattcatgca ttttctcca aaaggcagac ctaagagagc tgatactttt 360
 gacctccaaa gaattggatt tgcagctgag caactagcaa agtggattgc tgacagaacg 420
 gatgttcata ttcggtttt cagaccaccc aactactctg gtaccattgc tttggccctg 480
 ttagtgctgc ttgttggagg tttgctttat ttgagaagga acaacttgga gttcatctat 540
 aacaagactg gttgggcat ggtgtctctg tgtatagtct ttgctatgac ttctggccag 600
 atgtggaacc atatccgtgg acctccatat gtcataaga acccacacaa tggacaagtg 660
 ctttttaatt aaatgaagcc aagtgggatt tgcataaagt gaatgtttac catgaagata 720
 aactgttctt gactttatac tattttgaat tc 752

<210> 19
 <211> 269
 <212> PRT
 <213> Homo sapiens

<400> 19

Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
 1 5 10 15

Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
 20 25 30

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
 35 40 45

Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
50 55 60

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
65 70 75 80

Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln
85 90 95

Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu
100 105 110

Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe
115 120 125

Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn
130 135 140

Met Asn Ser Ala Pro Thr Phe Met His Phe Pro Pro Lys Gly Arg Pro
145 150 155 160

Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu
165 170 175

Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val
180 185 190

Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val
195 200 205

Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu Glu Phe
210 215 220

Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe
225 230 235 240

Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr
245 250 255

Ala His Lys Asn Pro His Asn Gly Gln Val Leu Phe Asn
260 265

<210> 20
<211> 891
<212> DNA
<213> Homo sapiens

<400> 20
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cgaatgaatg gtgataaatt ccgaaaattt ataaaggcac cacctcgaaa ctattccatg 120
attgttatgt tcaactgctct tcagcctcag cggcagtgtt ctgtgtgcag gcaagctaata 180
gaagaatatc aaatactggc gaactcctgg cgctattcat ctgctttttg taacaagctc 240
ttcttcagta tgggtggacta tgatgagggg acagacgttt ttcagcagct caacatgaac 300
tctgctccta cattcatgca ttttcctcca aaaggcagac ctaagagagc tgatactttt 360
gacctccaaa gaattggatt tgcagctgag caactagcaa agtggattgc tgacagaacg 420
gatgttcata ttcgggtttt cagaccaccc aactactctg gtaccattgc tttggccctg 480
ttagtgctgc ttgttggagg tttgctttat ttgagaagga acaacttgga gttcatctat 540
aacaagactg gttgggccat ggtgtctctg tgtatagtct ttgctatgac ttctggccag 600
atgtggaacc atatccgtgg acctccatat gtcataaga acccacacaa tggacaagtg 660
agctacattc atgggagcag ccaggctcag tttgtggcag aatcacacat tattctggta 720
ctgaatgccg ctatcaccat ggggatgggt cttctaaatg aagcagcaac ttcgaaaggc 780
gatgttgga aaagacggac tttttaatta aatgaagcca agtgggattt gcataaagtg 840
aatgtttacc atgaagataa actgttcctg actttatact attttgaatt c 891

<210> 21
<211> 314
<212> PRT
<213> Homo sapiens

<400> 21

Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
1 5 10 15

Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
20 25 30

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
35 40 45

Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
50 55 60

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
65 70 75 80

Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln

85										90					95				
Arg	Gln	Cys	Ser	Val	Cys	Arg	Gln	Ala	Asn	Glu	Glu	Tyr	Gln	Ile	Leu				
			100					105					110						
Ala	Asn	Ser	Trp	Arg	Tyr	Ser	Ser	Ala	Phe	Cys	Asn	Lys	Leu	Phe	Phe				
		115					120					125							
Ser	Met	Val	Asp	Tyr	Asp	Glu	Gly	Thr	Asp	Val	Phe	Gln	Gln	Leu	Asn				
	130					135					140								
Met	Asn	Ser	Ala	Pro	Thr	Phe	Met	His	Phe	Pro	Pro	Lys	Gly	Arg	Pro				
145					150					155					160				
Lys	Arg	Ala	Asp	Thr	Phe	Asp	Leu	Gln	Arg	Ile	Gly	Phe	Ala	Ala	Glu				
				165					170					175					
Gln	Leu	Ala	Lys	Trp	Ile	Ala	Asp	Arg	Thr	Asp	Val	His	Ile	Arg	Val				
			180					185					190						
Phe	Arg	Pro	Pro	Asn	Tyr	Ser	Gly	Thr	Ile	Ala	Leu	Ala	Leu	Leu	Val				
		195					200					205							
Ser	Leu	Val	Gly	Gly	Leu	Leu	Tyr	Leu	Arg	Arg	Asn	Asn	Leu	Glu	Phe				
	210					215					220								
Ile	Tyr	Asn	Lys	Thr	Gly	Trp	Ala	Met	Val	Ser	Leu	Cys	Ile	Val	Phe				
225					230					235					240				
Ala	Met	Thr	Ser	Gly	Gln	Met	Trp	Asn	His	Ile	Arg	Gly	Pro	Pro	Tyr				
				245					250					255					
Ala	His	Lys	Asn	Pro	His	Asn	Gly	Gln	Val	Ser	Tyr	Ile	His	Gly	Ser				
			260					265					270						
Ser	Gln	Ala	Gln	Phe	Val	Ala	Glu	Ser	His	Ile	Ile	Leu	Val	Leu	Asn				
	275						280					285							
Ala	Ala	Ile	Thr	Met	Gly	Met	Val	Leu	Leu	Asn	Glu	Ala	Ala	Thr	Ser				
	290					295					300								
Lys	Gly	Asp	Val	Gly	Lys	Arg	Arg	Thr	Phe										
305					310														

<210> 22
 <211> 1010

<212> DNA
 <213> Homo sapiens

<400> 22
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 attgttatgt tcaactgctct tcagcctcag cggcagtggt ctgtgtgcag gcaagctaata 180
 gaagaatatc aaatactggc gaactcctgg cgctattcat ctgctttttg taacaagctc 240
 ttcttcagta tgggtggacta tgatgagggg acagacgttt ttcagcagct caacatgaac 300
 tctgctccta cattcatgca ttttcctcca aaaggcagac ctaagagagc tgatactttt 360
 gacctccaaa gaattggatt tgcagctgag caactagcaa agtggattgc tgacagaacg 420
 gatgttcata ttcgggtttt cagaccacc aactactctg gtaccattgc tttggccctg 480
 ttagtgctgc ttgttggagg tttgctttat ttgagaagga acaacttggg gttcatctat 540
 aacaagactg gttggggccat ggtgtctctg tgtatagtct ttgctatgac ttctggccag 600
 atgtggaacc atatccgtgg acctccatat gtcataaga acccacacaa tggacaagtg 660
 ttttaaccatt ctggaacatt gtgttcagag ccagaaaaat taatagattt tattcacatc 720
 tatgtctacg gcttccttga caactactgc agatgccgct atcaccatgg ggatgggtct 780
 tctaaatgaa gcagcaactt cgaaaggcga tgttggaaaa agacggataa tttgcctagt 840
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 ccacggctat ccttatagct ttttaattaa atgaagccaa gtgggatttg cataaagtga 960
 atgtttacca tgaagataaa ctgttctga ctttatacta ttttgaattc 1010

<210> 23
 <211> 308
 <212> PRT
 <213> Homo sapiens

<400> 23
 Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
 1 5 10 15
 Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
 20 25 30
 Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
 35 40 45
 Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
 50 55 60

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
 65 70 75 80

Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln
 85 90 95

Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu
 100 105 110

Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe
 115 120 125

Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn
 130 135 140

Met Asn Ser Ala Pro Thr Phe Met His Phe Pro Pro Lys Gly Arg Pro
 145 150 155 160

Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu
 165 170 175

Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val
 180 185 190

Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val
 195 200 205

Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu Glu Phe
 210 215 220

Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe
 225 230 235 240

Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr
 245 250 255

Ala His Lys Asn Pro His Asn Gly Gln Val Phe Asn His Ser Gly Thr
 260 265 270

Leu Cys Ser Glu Pro Glu Lys Leu Ile Asp Phe Ile His Ile Tyr Val
 275 280 285

Tyr Gly Phe Leu Asp Asn Tyr Cys Arg Cys Arg Tyr His His Gly Asp
 290 295 300

Gly Ser Ser Lys
305

<210> 24
<211> 919
<212> DNA
<213> Homo sapiens

<400> 24
aatcttttag ctgaaaaagt agagcagctg atggaatgga gttccagacg ctcaatcttc 60
cgaatgaatg gtgataaatt ccgaaaattt ataaaggcac cacctcgaaa ctattccatg 120
attgttatgt tcaactgctct tcagcctcag cggcagtgtt ctgtgtgcag gcaagctaata 180
gaagaatatc aaataactggc gaactcctgg cgctattcat ctgctttttg taacaagctc 240
ttcttcagta tgggtggacta tgatgagggg acagacgttt ttcagcagct caacatgaac 300
tctgctccta cattcatgca ttttcctcca aaaggcagac ctaagagagc tgatactttt 360
gacctccaaa gaattggatt tgcagctgag caactagcaa agtggattgc tgacagaacg 420
gatgttcata ttcgggtttt cagaccacc aactactctg gtaccattgc tttggccctg 480
ttagtgctgc ttggtggagg tttgctttat ttgagaagga acaacttgga gttcatctat 540
aacaagactg gttgggccat ggtgtctctg tgtatagtct ttgctatgac ttctggccag 600
atgtggaacc atatccgtgg acctccatat gctcataaga acccacacaa tggacaagtg 660
tttaaccatt ctggaacatt gtgttcagag ccagaaaaat taatagattt tattcacatc 720
tatgtctacg gcttccttga caactactgc agatgccgct atcaccatgg ggatgggttct 780
tctaaatgaa gcagcaactt cgaaaggcga tgttggaaaa agacggactt tttaattaaa 840
tgaagccaag tgggatttgc ataaagtga tgttttaccat gaagataaac tgttcctgac 900
tttatactat tttgaattc 919

<210> 25
<211> 308
<212> PRT
<213> Homo sapiens

<400> 25

Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
1 5 10 15

Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
20 25 30

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
35 40 45

Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
 50 55 60

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
 65 70 75 80

Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln
 85 90 95

Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu
 100 105 110

Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe
 115 120 125

Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn
 130 135 140

Met Asn Ser Ala Pro Thr Phe Met His Phe Pro Pro Lys Gly Arg Pro
 145 150 155 160

Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu
 165 170 175

Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val
 180 185 190

Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val
 195 200 205

Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu Glu Phe
 210 215 220

Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe
 225 230 235 240

Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr
 245 250 255

Ala His Lys Asn Pro His Asn Gly Gln Val Phe Asn His Ser Gly Thr
 260 265 270

Leu Cys Ser Glu Pro Glu Lys Leu Ile Asp Phe Ile His Ile Tyr Val
 275 280 285

Tyr Gly Phe Leu Asp Asn Tyr Cys Arg Cys Arg Tyr His His Gly Asp
 290 295 300

Gly Ser Ser Lys
 305

<210> 26
 <211> 335
 <212> PRT
 <213> Homo sapiens

<400> 26

Met Ala Ala Arg Trp Arg Phe Trp Cys Val Ser Val Thr Met Val Val
 1 5 10 15

Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln Arg Lys
 20 25 30

Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met Glu Trp Thr
 35 40 45

Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys Phe Arg Arg Leu
 50 55 60

Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile Val Met Phe Thr Ala
 65 70 75 80

Leu Gln Leu His Arg Gln Cys Val Val Cys Lys Gln Ala Asp Glu Glu
 85 90 95

Phe Gln Ile Leu Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Thr Asn
 100 105 110

Arg Ile Phe Phe Ala Met Val Asp Phe Asp Glu Gly Ser Asp Val Phe
 115 120 125

Gln Met Leu Asn Met Asn Ser Ala Pro Thr Phe Ile Asn Phe Pro Ala
 130 135 140

Lys Gly Lys Pro Lys Arg Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly
 145 150 155 160

Phe Ser Ala Glu Gln Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val
 165 170 175

Asn Ile Arg Val Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu
 180 185 190

Gly Leu Leu Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser
195 200 205

Asn Met Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu
210 215 220

Cys Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg
225 230 235 240

Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn Tyr
245 250 255

Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His Ile Val
260 265 270

Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu Leu Cys Glu
275 280 285

Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys Ile Met Cys Val
290 295 300

Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser Trp Met Leu Ser Ile
305 310 315 320

Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Met Ser
325 330 335

<210> 27
<211> 348
<212> PRT
<213> Homo sapiens

<400> 27

Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
1 5 10 15

Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
20 25 30

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
35 40 45

Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
50 55 60

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
 65 70 75 80
 Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln
 85 90 95
 Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu
 100 105 110
 Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe
 115 120 125
 Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn
 130 135 140
 Met Asn Ser Ala Pro Thr Phe Met His Phe Pro Pro Lys Gly Arg Pro
 145 150 155 160
 Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu
 165 170 175
 Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val
 180 185 190
 Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val
 195 200 205
 Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu Glu Phe
 210 215 220
 Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe
 225 230 235 240
 Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr
 245 250 255
 Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His Gly Ser
 260 265 270
 Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val Leu Asn
 275 280 285
 Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala Thr Ser
 290 295 300
 Lys Gly Asp Val Gly Lys Arg Arg Ile Ile Cys Leu Val Gly Leu Gly

305 310 315 320
 Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg Ser Lys
 325 330 335
 Tyr His Gly Tyr Pro Tyr Ser Asp Leu Asp Phe Glu
 340 345

 <210> 28
 <211> 347
 <212> PRT
 <213> Homo sapiens

 <400> 28
 Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
 1 5 10 15
 Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
 20 25 30
 Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
 35 40 45
 Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
 50 55 60
 Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
 65 70 75 80
 Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln
 85 90 95
 Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu
 100 105 110
 Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe
 115 120 125
 Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn
 130 135 140
 Met Asn Ser Ala Pro Thr Phe Met His Phe Pro Pro Lys Gly Arg Pro
 145 150 155 160
 Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu
 165 170 175

Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val
180 185 190

Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val
195 200 205

Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu Glu Phe
210 215 220

Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe
225 230 235 240

Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr
245 250 255

Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His Gly Ser
260 265 270

Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val Leu Asn
275 280 285

Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala Thr Ser
290 295 300

Lys Gly Asp Val Gly Lys Arg Arg Ile Ile Cys Leu Val Gly Leu Gly
305 310 315 320

Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg Ser Lys
325 330 335

Tyr His Gly Tyr Pro Tyr Ser Phe Leu Ile Lys
340 345

<210> 29
<211> 350
<212> PRT
<213> Homo sapiens

<400> 29

Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
1 5 10 15

Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
20 25 30

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu

35	40	45
Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser		
50	55	60
Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro		
65	70	75
Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln		
	85	90
Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu		
	100	105
Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe		
	115	120
Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn		
	130	135
Met Asn Ser Ala Pro Thr Phe Met His Phe Pro Pro Lys Gly Arg Pro		
	145	150
Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu		
	165	170
Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val		
	180	185
Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val		
	195	200
Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu Glu Phe		
	210	215
Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe		
	225	230
Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr		
	245	250
Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His Gly Ser		
	260	265
Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val Leu Asn		
	275	280
		285

Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala Thr Ser
 290 295 300

Lys Gly Asp Val Gly Lys Arg Arg Thr Phe Ile Ile Cys Leu Val Gly
 305 310 315 320

Leu Gly Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg
 325 330 335

Ser Lys Tyr His Gly Tyr Pro Tyr Ser Asp Leu Asp Phe Glu
 340 345 350

<210> 30
 <211> 347
 <212> PRT
 <213> Drosophila melanogaster

<400> 30

Met Arg Leu Leu His Lys Thr Leu Leu Ser Gly Leu Leu Val Val Ala
 1 5 10 15

Leu Phe Ala Ile Tyr Ala Ala Ala Gln Ser Lys Ser Lys Thr Gly Leu
 20 25 30

Ser Leu Ser Glu Lys Val Gln Asn Leu Val Asp Met Asn Ala Lys Lys
 35 40 45

Pro Leu Leu Arg Phe Asn Gly Pro Lys Phe Arg Glu Tyr Val Lys Ser
 50 55 60

Ala Pro Arg Asn Tyr Ser Met Ile Val Met Leu Thr Ala Leu Ala Pro
 65 70 75 80

Ser Arg Gln Cys Gln Ile Cys Arg His Ala His Asp Glu Phe Ala Ile
 85 90 95

Val Ala Asn Ser Tyr Arg Phe Ser Ser Thr Tyr Ser Asn Lys Leu Phe
 100 105 110

Phe Ala Met Val Asp Phe Asp Asp Gly Ser Glu Val Phe Gln Leu Leu
 115 120 125

Arg Leu Asn Thr Ala Pro Val Phe Met His Phe Pro Ala Lys Gly Lys
 130 135 140

Pro Lys Gly Ala Asp Thr Met Asp Ile His Arg Val Gly Phe Ala Ala
 145 150 155 160

Asp Ser Ile Ala Lys Phe Val Ala Glu Arg Thr Asp Ile Thr Ile Arg
 165 170 175

Ile Phe Arg Pro Pro Asn Tyr Ser Gly Thr Val Ala Met Ile Thr Leu
 180 185 190

Val Ala Leu Val Gly Ser Phe Leu Tyr Ile Arg Arg Asn Asn Leu Glu
 195 200 205

Phe Leu Tyr Asn Lys Asn Leu Trp Gly Ala Ile Ala Val Phe Phe Cys
 210 215 220

Phe Ala Met Ile Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro
 225 230 235 240

Leu Val His Lys Ser Gln Asn Gly Gly Val Ala Tyr Ile His Gly Ser
 245 250 255

Ser Gln Gly Gln Leu Val Val Glu Thr Tyr Ile Val Met Phe Leu Asn
 260 265 270

Ala Met Ile Val Leu Gly Met Ile Leu Leu Ile Glu Ser Gly Thr Pro
 275 280 285

Lys Ala His Asn Lys Asn Arg Ile Met Ala Met Thr Gly Leu Val Leu
 290 295 300

Leu Thr Val Phe Phe Ser Phe Leu Leu Ser Val Phe Arg Ser Lys Ala
 305 310 315 320

Gln Gly Tyr Pro Tyr Ile Ser Cys Ser Asn Arg Ile Asp Cys Ser Pro
 325 330 335

Val Pro Val Gln Val His Pro Ile Ser Phe Leu
 340 345

<210> 31
 <211> 331
 <212> PRT
 <213> Caenorhabditis elegans

<400> 31

Met Leu Leu Ala Val Tyr Glu Ser Ala Gln Gln Gln Thr Leu Glu Asp
 1 5 10 15

Lys Val Gln Asn Leu Val Asp Leu Thr Ser Arg Gln Ser Ile Val Lys
 20 25 30

Phe Asn Met Asp Lys Trp Lys Thr Leu Val Arg Met Gln Pro Arg Asn
 35 40 45

Tyr Ser Met Ile Val Met Phe Thr Ala Leu Ser Pro Gly Val Gln Cys
 50 55 60

Pro Ile Cys Lys Pro Ala Tyr Asp Glu Phe Met Ile Val Ala Asn Ser
 65 70 75 80

His Arg Tyr Thr Ser Ser Glu Gly Asp Arg Arg Lys Val Phe Phe Gly
 85 90 95

Ile Val Asp Tyr Glu Asp Ala Pro Gln Ile Phe Gln Gln Met Asn Leu
 100 105 110

Asn Thr Ala Pro Ile Leu Tyr His Phe Gly Pro Lys Leu Gly Ala Lys
 115 120 125

Lys Arg Pro Glu Gln Met Asp Phe Gln Arg Gln Gly Phe Asp Ala Asp
 130 135 140

Ala Ile Gly Arg Phe Val Ala Asp Gln Thr Glu Val His Val Arg Val
 145 150 155 160

Ile Arg Pro Pro Asn Tyr Thr Ala Pro Val Val Ile Ala Leu Phe Val
 165 170 175

Ala Leu Leu Leu Gly Met Leu Tyr Met Lys Arg Asn Ser Leu Asp Phe
 180 185 190

Leu Phe Asn Arg Thr Val Trp Gly Phe Val Cys Leu Ala Ile Thr Phe
 195 200 205

Ile Phe Met Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Phe
 210 215 220

Met Ile Thr Asn Pro Asn Thr Lys Glu Pro Ser Phe Ile His Gly Ser
 225 230 235 240

Thr Gln Phe Gln Leu Ile Ala Glu Thr Tyr Ile Val Gly Leu Leu Tyr
 245 250 255

Ala Leu Ile Ala Ile Gly Phe Ile Cys Val Asn Glu Ala Ala Asp Gln
260 265 270

Ser Asn Ser Lys Asp Arg Lys Asn Ala Gly Lys Lys Leu Asn Pro Leu
275 280 285

Ser Leu Leu Asn Ile Pro Thr Asn Thr Leu Ala Ile Ala Gly Leu Val
290 295 300

Cys Ile Cys Val Phe Phe Ser Phe Leu Leu Ser Val Phe Arg Ser Lys
305 310 315 320

Tyr Arg Gly Tyr Pro Tyr Ser Phe Leu Phe Ala
325 330

<210> 32
<211> 350
<212> PRT
<213> *Saccharomyces cerevisiae*

<400> 32

Met Asn Trp Leu Phe Leu Val Ser Leu Val Phe Phe Cys Gly Val Ser
1 5 10 15

Thr His Pro Ala Leu Ala Met Ser Ser Asn Arg Leu Leu Lys Leu Ala
20 25 30

Asn Lys Ser Pro Lys Lys Ile Ile Pro Leu Lys Asp Ser Ser Phe Glu
35 40 45

Asn Ile Leu Ala Pro Pro His Glu Asn Ala Tyr Ile Val Ala Leu Phe
50 55 60

Thr Ala Thr Ala Pro Glu Ile Gly Cys Ser Leu Cys Leu Glu Leu Glu
65 70 75 80

Ser Glu Tyr Asp Thr Ile Val Ala Ser Trp Phe Asp Asp His Pro Asp
85 90 95

Ala Lys Ser Ser Asn Ser Asp Thr Ser Ile Phe Phe Thr Lys Val Asn
100 105 110

Leu Glu Asp Pro Ser Lys Thr Ile Pro Lys Ala Phe Gln Phe Phe Gln
115 120 125

Leu Asn Asn Val Pro Arg Leu Phe Ile Phe Lys Pro Asn Ser Pro Ser

130		135		140
Ile Leu Asp His Ser Val Ile Ser Ile Ser Thr Asp Thr Gly Ser Glu				
145		150		155
				160
Arg Met Lys Gln Ile Ile Gln Ala Ile Lys Gln Phe Ser Gln Val Asn				
		165		170
				175
Asp Phe Ser Leu His Leu Pro Met Asp Trp Thr Pro Ile Ile Thr Ser				
		180		185
				190
Thr Ile Ile Thr Phe Ile Thr Val Leu Leu Phe Lys Lys Gln Ser Lys				
		195		200
				205
Leu Met Phe Ser Ile Ile Ser Ser Arg Ile Ile Trp Ala Thr Leu Ser				
		210		215
				220
Thr Phe Phe Ile Ile Cys Met Ile Ser Ala Tyr Met Phe Asn Gln Ile				
225		230		235
				240
Arg Asn Thr Gln Leu Ala Gly Val Gly Pro Lys Gly Glu Val Met Tyr				
		245		250
				255
Phe Leu Pro Asn Glu Phe Gln His Gln Phe Ala Ile Glu Thr Gln Val				
		260		265
				270
Met Val Leu Ile Tyr Gly Thr Leu Ala Ala Leu Val Val Val Leu Val				
		275		280
				285
Lys Gly Ile Gln Phe Leu Arg Ser His Leu Tyr Pro Glu Thr Lys Lys				
		290		295
				300
Ala Tyr Phe Ile Asp Ala Ile Leu Ala Ser Phe Cys Ala Leu Phe Ile				
305		310		315
				320
Tyr Val Phe Phe Ala Ala Leu Thr Thr Val Phe Thr Ile Lys Ser Pro				
		325		330
				335
Ala Tyr Pro Phe Pro Leu Leu Arg Leu Ser Ala Pro Phe Lys				
		340		345
				350

<210> 33
 <211> 332
 <212> PRT
 <213> *Saccharomyces cerevisiae*
 <400> 33

Met	Lys	Trp	Cys	Ser	Thr	Tyr	Ile	Ile	Ile	Trp	Leu	Ala	Ile	Ile	Phe	1	5	10	15
His	Lys	Phe	Gln	Lys	Ser	Thr	Ala	Thr	Ala	Ser	His	Asn	Ile	Asp	Asp	20	25	30	
Ile	Leu	Gln	Leu	Lys	Asp	Asp	Thr	Gly	Val	Ile	Thr	Val	Thr	Ala	Asp	35	40	45	
Asn	Tyr	Pro	Leu	Leu	Ser	Arg	Gly	Val	Pro	Gly	Tyr	Phe	Asn	Ile	Leu	50	55	60	
Tyr	Ile	Thr	Met	Arg	Gly	Thr	Asn	Ser	Asn	Gly	Met	Ser	Cys	Gln	Leu	65	70	75	80
Cys	His	Asp	Phe	Glu	Lys	Thr	Tyr	His	Ala	Val	Ala	Asp	Val	Ile	Arg	85	90	95	
Ser	Gln	Ala	Pro	Gln	Ser	Leu	Asn	Leu	Phe	Phe	Thr	Val	Asp	Val	Asn	100	105	110	
Glu	Val	Pro	Gln	Leu	Val	Lys	Asp	Leu	Lys	Leu	Gln	Asn	Val	Pro	His	115	120	125	
Leu	Val	Val	Tyr	Pro	Pro	Ala	Glu	Ser	Asn	Lys	Gln	Ser	Gln	Phe	Glu	130	135	140	
Trp	Lys	Thr	Ser	Pro	Phe	Tyr	Gln	Tyr	Ser	Leu	Val	Pro	Glu	Asn	Ala	145	150	155	160
Glu	Asn	Thr	Leu	Gln	Phe	Gly	Asp	Phe	Leu	Ala	Lys	Ile	Leu	Asn	Ile	165	170	175	
Ser	Ile	Thr	Val	Pro	Gln	Ala	Phe	Asn	Val	Gln	Glu	Phe	Val	Tyr	Tyr	180	185	190	
Phe	Val	Ala	Cys	Met	Val	Val	Phe	Ile	Phe	Ile	Lys	Lys	Val	Ile	Leu	195	200	205	
Pro	Lys	Val	Thr	Asn	Lys	Trp	Lys	Leu	Phe	Ser	Met	Ile	Leu	Ser	Leu	210	215	220	
Gly	Ile	Leu	Leu	Pro	Ser	Ile	Thr	Gly	Tyr	Lys	Phe	Val	Glu	Met	Asn	225	230	235	240

Ala Ile Pro Phe Ile Ala Arg Asp Ala Lys Asn Arg Ile Met Tyr Phe
 245 250 255

Ser Gly Gly Ser Gly Trp Gln Phe Gly Ile Glu Ile Phe Ser Val Ser
 260 265 270

Leu Met Tyr Ile Val Met Ser Ala Leu Ser Val Leu Leu Ile Tyr Val
 275 280 285

Pro Lys Ile Ser Cys Val Ser Glu Lys Met Arg Gly Leu Leu Ser Ser
 290 295 300

Phe Leu Ala Cys Val Leu Phe Tyr Phe Phe Ser Tyr Phe Ile Ser Cys
 305 310 315 320

Tyr Leu Ile Lys Asn Pro Gly Tyr Pro Ile Val Phe
 325 330

<210> 34
 <211> 108
 <212> PRT
 <213> Homo sapiens

<400> 34

Leu Val Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu
 1 5 10 15

Glu Phe Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile
 20 25 30

Val Phe Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro
 35 40 45

Pro Tyr Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His
 50 55 60

Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val
 65 70 75 80

Leu Asn Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala
 85 90 95

Thr Ser Lys Gly Asp Val Gly Lys Arg Arg Thr Phe
 100 105

<210> 35
 <211> 142

<212> PRT
<213> Homo sapiens

<400> 35

Leu Val Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu
1 5 10 15

Glu Phe Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile
20 25 30

Val Phe Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro
35 40 45

Pro Tyr Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His
50 55 60

Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val
65 70 75 80

Leu Asn Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala
85 90 95

Thr Ser Lys Gly Asp Val Gly Lys Arg Arg Ile Ile Cys Leu Val Gly
100 105 110

Leu Gly Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg
115 120 125

Ser Lys Tyr His Gly Tyr Pro Tyr Ser Asp Leu Asp Phe Glu
130 135 140

<210> 36
<211> 141
<212> PRT
<213> Homo sapiens

<400> 36

Leu Val Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu
1 5 10 15

Glu Phe Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile
20 25 30

Val Phe Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro
35 40 45

Pro Tyr Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His

50 55 60
 Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val
 65 70 75 80
 Leu Asn Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala
 85 90 95
 Thr Ser Lys Gly Asp Val Gly Lys Arg Arg Ile Ile Cys Leu Val Gly
 100 105 110
 Leu Gly Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg
 115 120 125
 Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Ile Lys
 130 135 140
 <210> 37
 <211> 63
 <212> PRT
 <213> Homo sapiens
 <400> 37
 Leu Val Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu
 1 5 10 15
 Glu Phe Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile
 20 25 30
 Val Phe Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro
 35 40 45
 Pro Tyr Ala His Lys Asn Pro His Asn Gly Gln Val Leu Phe Asn
 50 55 60
 <210> 38
 <211> 102
 <212> PRT
 <213> Homo sapiens
 <400> 38
 Leu Val Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu
 1 5 10 15
 Glu Phe Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile
 20 25 30

Val Phe Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro
 35 40 45

Pro Tyr Ala His Lys Asn Pro His Asn Gly Gln Val Phe Asn His Ser
 50 55 60

Gly Thr Leu Cys Ser Glu Pro Glu Lys Leu Ile Asp Phe Ile His Ile
 65 70 75 80

Tyr Val Tyr Gly Phe Leu Asp Asn Tyr Cys Arg Cys Arg Tyr His His
 85 90 95

Gly Asp Gly Ser Ser Lys
 100

<210> 39
 <211> 102
 <212> PRT
 <213> Homo sapiens

<400> 39

Leu Val Ser Leu Val Gly Gly Leu Leu Tyr Leu Arg Arg Asn Asn Leu
 1 5 10 15

Glu Phe Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile
 20 25 30

Val Phe Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro
 35 40 45

Pro Tyr Ala His Lys Asn Pro His Asn Gly Gln Val Phe Asn His Ser
 50 55 60

Gly Thr Leu Cys Ser Glu Pro Glu Lys Leu Ile Asp Phe Ile His Ile
 65 70 75 80

Tyr Val Tyr Gly Phe Leu Asp Asn Tyr Cys Arg Cys Arg Tyr His His
 85 90 95

Gly Asp Gly Ser Ser Lys
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<210> 40
 <211> 2871
 <212> DNA
 <213> Homo sapiens

<400> 40

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<210> 41
 <211> 956
 <212> PRT
 <213> Homo sapiens

<400> 41

Met Pro Arg Val Ser Ala Pro Leu Val Leu Leu Pro Ala Trp Leu Val
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Met Val Ala Cys Ser Pro His Ser Leu Arg Ile Ala Ala Ile Leu Asp
 20 25 30

Asp Pro Met Glu Cys Ser Arg Gly Glu Arg Leu Ser Ile Thr Leu Ala
 35 40 45

Lys Asn Arg Ile Asn Arg Ala Pro Glu Arg Leu Gly Lys Ala Lys Val
 50 55 60

Glu Val Asp Ile Phe Glu Leu Leu Arg Asp Ser Glu Tyr Glu Thr Ala
 65 70 75 80

Glu Thr Met Cys Gln Ile Leu Pro Lys Gly Val Val Ala Val Leu Gly
 85 90 95

Pro Ser Ser Ser Pro Ala Ser Ser Ser Ile Ile Ser Asn Ile Cys Gly
 100 105 110

Glu Lys Glu Val Pro His Phe Lys Val Ala Pro Glu Glu Phe Val Lys
 115 120 125

Phe Gln Phe Gln Arg Phe Thr Thr Leu Asn Leu His Pro Ser Asn Thr
 130 135 140

Asp Ile Ser Val Ala Val Ala Gly Ile Leu Asn Phe Phe Asn Cys Thr
 145 150 155 160

Thr Ala Cys Leu Ile Cys Ala Lys Ala Glu Cys Leu Leu Asn Leu Glu
 165 170 175

Lys Leu Leu Arg Gln Phe Leu Ile Ser Lys Asp Thr Leu Ser Val Arg
 180 185 190

Met Leu Asp Asp Thr Arg Asp Pro Thr Pro Leu Leu Lys Glu Ile Arg
 195 200 205

Asp Asp Lys Thr Ala Thr Ile Ile Ile His Ala Asn Ala Ser Met Ser
 210 215 220

His Thr Ile Leu Leu Lys Ala Ala Glu Leu Gly Met Val Ser Ala Tyr
 225 230 235 240

Tyr Thr Tyr Ile Phe Thr Asn Leu Glu Phe Ser Leu Gln Arg Thr Asp
 245 250 255

Ser Leu Val Asp Asp Arg Val Asn Ile Leu Gly Phe Ser Ile Phe Asn
 260 265 270

Gln Ser His Ala Phe Phe Gln Glu Phe Ala Gln Ser Leu Asn Gln Ser
 275 280 285

Trp Gln Glu Asn Cys Asp His Val Pro Phe Thr Gly Pro Ala Leu Ser
 290 295 300

Ser Ala Leu Leu Phe Asp Ala Val Tyr Ala Val Val Thr Ala Val Gln
 305 310 315 320

Glu	Leu	Asn	Arg	Ser	Gln	Glu	Ile	Gly	Val	Lys	Pro	Leu	Ser	Cys	Gly	325	330	335
Ser	Ala	Gln	Ile	Trp	Gln	His	Gly	Thr	Ser	Leu	Met	Asn	Tyr	Leu	Arg	340	345	350
Met	Val	Glu	Leu	Glu	Gly	Leu	Thr	Gly	His	Ile	Glu	Phe	Asn	Ser	Lys	355	360	365
Gly	Gln	Arg	Ser	Asn	Tyr	Ala	Leu	Lys	Ile	Leu	Gln	Phe	Thr	Arg	Asn	370	375	380
Gly	Phe	Arg	Gln	Ile	Gly	Gln	Trp	His	Val	Ala	Glu	Gly	Leu	Ser	Met	385	390	395
Asp	Ser	His	Leu	Tyr	Ala	Ser	Asn	Ile	Ser	Asp	Thr	Leu	Phe	Asn	Thr	405	410	415
Thr	Leu	Val	Val	Thr	Thr	Ile	Leu	Glu	Asn	Pro	Tyr	Leu	Met	Leu	Lys	420	425	430
Gly	Asn	His	Gln	Glu	Met	Glu	Gly	Asn	Asp	Arg	Tyr	Glu	Gly	Phe	Cys	435	440	445
Val	Asp	Met	Leu	Lys	Glu	Leu	Ala	Glu	Ile	Leu	Arg	Phe	Asn	Tyr	Lys	450	455	460
Ile	Arg	Leu	Val	Gly	Asp	Gly	Val	Tyr	Gly	Val	Pro	Glu	Ala	Asn	Gly	465	470	475
Thr	Trp	Thr	Gly	Met	Val	Gly	Glu	Leu	Ile	Ala	Arg	Lys	Ala	Asp	Leu	485	490	495
Ala	Val	Ala	Gly	Leu	Thr	Ile	Thr	Ala	Glu	Arg	Glu	Lys	Val	Ile	Asp	500	505	510
Phe	Ser	Lys	Pro	Phe	Met	Thr	Leu	Gly	Ile	Ser	Ile	Leu	Tyr	Arg	Ile	515	520	525
His	Met	Gly	Arg	Lys	Pro	Gly	Tyr	Phe	Ser	Phe	Leu	Asp	Pro	Phe	Ser	530	535	540
Pro	Gly	Val	Trp	Leu	Phe	Met	Leu	Leu	Ala	Tyr	Leu	Ala	Val	Ser	Cys	545	550	555

Val Leu Phe Leu Val Ala Arg Leu Thr Pro Tyr Glu Trp Tyr Ser Pro
565 570 575
His Pro Cys Ala Gln Gly Arg Cys Asn Leu Leu Val Asn Gln Tyr Ser
580 585 590
Leu Gly Asn Ser Leu Trp Phe Pro Val Gly Gly Phe Met Gln Gln Gly
595 600 605
Ser Thr Ile Ala Pro Arg Ala Leu Ser Thr Arg Cys Val Ser Gly Val
610 615 620
Trp Trp Ala Phe Thr Leu Ile Ile Ile Ser Ser Tyr Thr Ala Asn Leu
625 630 635 640
Ala Ala Phe Leu Thr Val Gln Arg Met Asp Val Pro Ile Glu Ser Val
645 650 655
Asp Asp Leu Ala Asp Gln Thr Ala Ile Glu Tyr Gly Thr Ile His Gly
660 665 670
Gly Ser Ser Met Thr Phe Phe Gln Asn Ser Arg Tyr Gln Thr Tyr Gln
675 680 685
Arg Met Trp Asn Tyr Met Tyr Ser Lys Gln Pro Ser Val Phe Val Lys
690 695 700
Ser Thr Glu Glu Gly Ile Ala Arg Val Leu Asn Ser Asn Tyr Ala Phe
705 710 715 720
Leu Leu Glu Ser Thr Met Asn Glu Tyr Tyr Arg Gln Arg Asn Cys Asn
725 730 735
Leu Thr Gln Ile Gly Gly Leu Leu Asp Thr Lys Gly Tyr Gly Ile Gly
740 745 750
Met Pro Val Gly Ser Val Phe Arg Asp Glu Phe Asp Leu Ala Ile Leu
755 760 765
Gln Leu Gln Glu Asn Asn Arg Leu Glu Ile Leu Lys Arg Lys Trp Trp
770 775 780
Glu Gly Gly Lys Cys Pro Lys Glu Glu Asp His Arg Ala Lys Gly Leu
785 790 795 800
Gly Met Glu Asn Ile Gly Gly Ile Phe Val Val Leu Ile Cys Gly Leu

805	810	815	
Ile Val Ala Ile Phe Met Ala Met Leu Glu Phe Leu Trp Thr Leu Arg			
820	825	830	
His Ser Glu Ala Thr Glu Val Ser Val Cys Gln Glu Met Val Thr Glu			
835	840	845	
Leu Arg Ser Ile Ile Leu Cys Gln Asp Ser Ile His Pro Arg Arg Arg			
850	855	860	
Arg Ala Ala Val Pro Pro Pro Arg Pro Pro Ile Pro Glu Glu Arg Arg			
865	870	875	880
Pro Arg Gly Thr Ala Thr Leu Ser Asn Gly Lys Leu Cys Gly Ala Gly			
	885	890	895
Glu Pro Asp Gln Leu Ala Gln Arg Leu Ala Gln Glu Ala Ala Leu Val			
	900	905	910
Ala Arg Gly Cys Thr His Ile Arg Val Cys Pro Glu Cys Arg Arg Phe			
	915	920	925
Gln Gly Leu Arg Ala Arg Pro Ser Pro Ala Arg Ser Glu Glu Ser Leu			
	930	935	940
Glu Trp Glu Lys Thr Thr Asn Ser Ser Glu Pro Glu			
945	950	955	
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<213>	Homo sapiens		
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<210>	43		
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ggtgatggga gaagcaagag agggatccac acacctgcgc ttagctttct atgacctggg			180

cggatggagg ccaaaggtaa ggtgggatga ga 212

<210> 44
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<400> 44

Met Glu Ala Lys Ala
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<210> 45
 <211> 118
 <212> DNA
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 gctcgtgatg gtcgcctgca gccgcactc cttgaggatc ggtaagtgtg gccagct 118

<210> 46
 <211> 28
 <212> PRT
 <213> Homo sapiens

<400> 46

Met Pro Arg Val Ser Ala Pro Leu Val Leu Leu Pro Ala Trp Leu Val
 1 5 10 15

Met Val Ala Cys Ser Pro His Ser Leu Arg Ile Ala
 20 25

<210> 47
 <211> 193
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<400> 47
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 ctccatcacc ctggccaaga accgcatcaa ccgcgctcct gagaggctgg gcaaggccaa 120
 ggtcgaagtg gacatctttg agcttctcag agacagcgag tacgagactg cagaaaccag 180
 tacgtagact ggg 193

<210> 48
 <211> 55
 <212> PRT
 <213> Homo sapiens

<400> 48

Ala Ile Leu Asp Asp Pro Met Glu Cys Ser Arg Gly Glu Arg Leu Ser
1 5 10 15

Ile Thr Leu Ala Lys Asn Arg Ile Asn Arg Ala Pro Glu Arg Leu Gly
20 25 30

Lys Ala Lys Val Glu Val Asp Ile Phe Glu Leu Leu Arg Asp Ser Glu
35 40 45

Tyr Glu Thr Ala Glu Thr Met
50 55

<210> 49

<211> 3048

<212> DNA

<213> Homo sapiens

<400> 49

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accatgtgtc agatcctccc caaggggggtg gtcgctgtcc tcggaccatc gtccagccca	480
gcctccagct ccatcatcag caacatctgt ggagagaagg aggtccctca cttcaaagt	540
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<210> 50
<211> 933
<212> PRT
<213> Homo sapiens

<400> 50

Met Glu Ala Lys Ala Ala Ile Leu Asp Asp Pro Met Glu Cys Ser Arg
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Gly Glu Arg Leu Ser Ile Thr Leu Ala Lys Asn Arg Ile Asn Arg Ala
20 25 30

Pro Glu Arg Leu Gly Lys Ala Lys Val Glu Val Asp Ile Phe Glu Leu
35 40 45

Leu Arg Asp Ser Glu Tyr Glu Thr Ala Glu Thr Met Cys Gln Ile Leu
50 55 60

Pro Lys Gly Val Val Ala Val Leu Gly Pro Ser Ser Ser Pro Ala Ser
65 70 75 80

Ser Ser Ile Ile Ser Asn Ile Cys Gly Glu Lys Glu Val Pro His Phe
85 90 95

Lys Val Ala Pro Glu Glu Phe Val Lys Phe Gln Phe Gln Arg Phe Thr
100 105 110

Thr Leu Asn Leu His Pro Ser Asn Thr Asp Ile Ser Val Ala Val Ala
115 120 125

Gly Ile Leu Asn Phe Phe Asn Cys Thr Thr Ala Cys Leu Ile Cys Ala
130 135 140

Lys Ala Glu Cys Leu Leu Asn Leu Glu Lys Leu Leu Arg Gln Phe Leu
145 150 155 160

Ile Ser Lys Asp Thr Leu Ser Val Arg Met Leu Asp Asp Thr Arg Asp
165 170 175

Pro Thr Pro Leu Leu Lys Glu Ile Arg Asp Asp Lys Thr Ala Thr Ile
180 185 190

Ile Ile His Ala Asn Ala Ser Met Ser His Thr Ile Leu Leu Lys Ala

195	200	205
Ala Glu Leu Gly Met Val Ser	Ala Tyr Tyr Thr Tyr Ile Phe Thr Asn	
210	215	220
Leu Glu Phe Ser Leu Gln Arg Thr Asp Ser Leu Val Asp Asp Arg Val		
225	230	235 240
Asn Ile Leu Gly Phe Ser Ile Phe Asn Gln Ser His Ala Phe Phe Gln		
	245	250 255
Glu Phe Ala Gln Ser Leu Asn Gln Ser Trp Gln Glu Asn Cys Asp His		
	260	265 270
Val Pro Phe Thr Gly Pro Ala Leu Ser Ser Ala Leu Leu Phe Asp Ala		
	275	280 285
Val Tyr Ala Val Val Thr Ala Val Gln Glu Leu Asn Arg Ser Gln Glu		
	290	295 300
Ile Gly Val Lys Pro Leu Ser Cys Gly Ser Ala Gln Ile Trp Gln His		
305	310	315 320
Gly Thr Ser Leu Met Asn Tyr Leu Arg Met Val Glu Leu Glu Gly Leu		
	325	330 335
Thr Gly His Ile Glu Phe Asn Ser Lys Gly Gln Arg Ser Asn Tyr Ala		
	340	345 350
Leu Lys Ile Leu Gln Phe Thr Arg Asn Gly Phe Arg Gln Ile Gly Gln		
	355	360 365
Trp His Val Ala Glu Gly Leu Ser Met Asp Ser His Leu Tyr Ala Ser		
	370	375 380
Asn Ile Ser Asp Thr Leu Phe Asn Thr Thr Leu Val Val Thr Thr Ile		
385	390	395 400
Leu Glu Asn Pro Tyr Leu Met Leu Lys Gly Asn His Gln Glu Met Glu		
	405	410 415
Gly Asn Asp Arg Tyr Glu Gly Phe Cys Val Asp Met Leu Lys Glu Leu		
	420	425 430
Ala Glu Ile Leu Arg Phe Asn Tyr Lys Ile Arg Leu Val Gly Asp Gly		
	435	440 445

Val Tyr Gly Val Pro Glu Ala Asn Gly Thr Trp Thr Gly Met Val Gly
 450 455 460

Glu Leu Ile Ala Arg Lys Ala Asp Leu Ala Val Ala Gly Leu Thr Ile
 465 470 475 480

Thr Ala Glu Arg Glu Lys Val Ile Asp Phe Ser Lys Pro Phe Met Thr
 485 490 495

Leu Gly Ile Ser Ile Leu Tyr Arg Ile His Met Gly Arg Lys Pro Gly
 500 505 510

Tyr Phe Ser Phe Leu Asp Pro Phe Ser Pro Gly Val Trp Leu Phe Met
 515 520 525

Leu Leu Ala Tyr Leu Ala Val Ser Cys Val Leu Phe Leu Val Ala Arg
 530 535 540

Leu Thr Pro Tyr Glu Trp Tyr Ser Pro His Pro Cys Ala Gln Gly Arg
 545 550 555 560

Cys Asn Leu Leu Val Asn Gln Tyr Ser Leu Gly Asn Ser Leu Trp Phe
 565 570 575

Pro Val Gly Gly Phe Met Gln Gln Gly Ser Thr Ile Ala Pro Arg Ala
 580 585 590

Leu Ser Thr Arg Cys Val Ser Gly Val Trp Trp Ala Phe Thr Leu Ile
 595 600 605

Ile Ile Ser Ser Tyr Thr Ala Asn Leu Ala Ala Phe Leu Thr Val Gln
 610 615 620

Arg Met Asp Val Pro Ile Glu Ser Val Asp Asp Leu Ala Asp Gln Thr
 625 630 635 640

Ala Ile Glu Tyr Gly Thr Ile His Gly Gly Ser Ser Met Thr Phe Phe
 645 650 655

Gln Asn Ser Arg Tyr Gln Thr Tyr Gln Arg Met Trp Asn Tyr Met Tyr
 660 665 670

Ser Lys Gln Pro Ser Val Phe Val Lys Ser Thr Glu Glu Gly Ile Ala
 675 680 685

Arg Val Leu Asn Ser Asn Tyr Ala Phe Leu Leu Glu Ser Thr Met Asn
 690 695 700

Glu Tyr Tyr Arg Gln Arg Asn Cys Asn Leu Thr Gln Ile Gly Gly Leu
 705 710 715 720

Leu Asp Thr Lys Gly Tyr Gly Ile Gly Met Pro Val Gly Ser Val Phe
 725 730 735

Arg Asp Glu Phe Asp Leu Ala Ile Leu Gln Leu Gln Glu Asn Asn Arg
 740 745 750

Leu Glu Ile Leu Lys Arg Lys Trp Trp Glu Gly Gly Lys Cys Pro Lys
 755 760 765

Glu Glu Asp His Arg Ala Lys Gly Leu Gly Met Glu Asn Ile Gly Gly
 770 775 780

Ile Phe Val Val Leu Ile Cys Gly Leu Ile Val Ala Ile Phe Met Ala
 785 790 795 800

Met Leu Glu Phe Leu Trp Thr Leu Arg His Ser Glu Ala Thr Glu Val
 805 810 815

Ser Val Cys Gln Glu Met Val Thr Glu Leu Arg Ser Ile Ile Leu Cys
 820 825 830

Gln Asp Ser Ile His Pro Arg Arg Arg Arg Ala Ala Val Pro Pro Pro
 835 840 845

Arg Pro Pro Ile Pro Glu Glu Arg Arg Pro Arg Gly Thr Ala Thr Leu
 850 855 860

Ser Asn Gly Lys Leu Cys Gly Ala Gly Glu Pro Asp Gln Leu Ala Gln
 865 870 875 880

Arg Leu Ala Gln Glu Ala Ala Leu Val Ala Arg Gly Cys Thr His Ile
 885 890 895

Arg Val Cys Pro Glu Cys Arg Arg Phe Gln Gly Leu Arg Ala Arg Pro
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Ser Ser Glu Pro Glu
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<211> 3428
<212> DNA
<213> Homo sapiens

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agcgacgaca gcttcgagca ctcggaacttt gagaacccca aggcggggcga ggacggcttc	1620
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<400> 52

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Arg Arg Gly Lys Glu Asn Phe Glu Phe Tyr Glu Leu Ala Lys Leu Leu
 35 40 45

Pro Leu Pro Ala Ala Ile Thr Ser Gln Leu Asp Lys Ala Ser Ile Ile
 50 55 60

Arg Leu Thr Ile Ser Tyr Leu Lys Met Arg Asp Phe Ala Asn Gln Gly
 65 70 75 80

Asp Pro Pro Trp Asn Leu Arg Met Glu Gly Pro Pro Pro Asn Thr Ser
 85 90 95

Val Lys Gly Ala Gln Arg Arg Arg Ser Pro Ser Ala Leu Ala Ile Glu
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Val Phe Glu Ala His Leu Gly Ser His Ile Leu Gln Ser Leu Asp Gly
 115 120 125

Phe Val Phe Ala Leu Asn Gln Glu Gly Lys Phe Leu Tyr Ile Ser Glu
 130 135 140

Thr Val Ser Ile Tyr Leu Gly Leu Ser Gln Val Glu Leu Thr Gly Ser
 145 150 155 160

Ser Val Phe Asp Tyr Val His Pro Gly Asp His Val Glu Met Ala Glu
 165 170 175

Gln Leu Gly Met Lys Leu Pro Pro Gly Arg Gly Leu Leu Ser Gln Gly
 180 185 190

Thr Ala Glu Asp Gly Ala Ser Ser Ala Ser Ser Ser Ser Gln Ser Glu

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Lys Arg Gly Val His Ile Lys Ser Ser Gly Tyr Lys Val Ile His Ile 245 250 255		
Thr Gly Arg Leu Arg Leu Arg Val Ser Leu Ser His Gly Arg Thr Val 260 265 270		
Pro Ser Gln Ile Met Gly Leu Val Val Val Ala His Ala Leu Pro Pro 275 280 285		
Pro Thr Ile Asn Glu Val Arg Ile Asp Cys His Met Phe Val Thr Arg 290 295 300		
Val Asn Met Asp Leu Asn Ile Ile Tyr Cys Glu Asn Arg Ile Ser Asp 305 310 315 320		
Tyr Met Asp Leu Thr Pro Val Asp Ile Val Gly Lys Arg Cys Tyr His 325 330 335		
Phe Ile His Ala Glu Asp Val Glu Gly Ile Arg His Ser His Leu Asp 340 345 350		
Leu Leu Asn Lys Gly Gln Cys Val Thr Lys Tyr Tyr Arg Trp Met Gln 355 360 365		
Lys Asn Gly Gly Tyr Ile Trp Ile Gln Ser Ser Ala Thr Ile Ala Ile 370 375 380		
Asn Ala Lys Asn Ala Asn Glu Lys Asn Ile Ile Trp Val Asn Tyr Leu 385 390 395 400		
Leu Ser Asn Pro Glu Tyr Lys Asp Thr Pro Met Asp Ile Ala Gln Leu 405 410 415		
Pro His Leu Pro Glu Lys Thr Ser Glu Ser Ser Glu Thr Ser Asp Ser 420 425 430		
Glu Ser Asp Ser Lys Asp Thr Ser Gly Ile Thr Glu Asp Asn Glu Asn 435 440 445		

Ser Lys Ser Asp Glu Lys Gly Asn Gln Ser Glu Asn Ser Glu Asp Pro
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Glu Pro Asp Arg Lys Lys Ser Gly Asn Ala Cys Asp Asn Asp Met Asn
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Cys Asn Asp Asp Gly His Ser Ser Ser Asn Pro Asp Ser Arg Asp Ser
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Asp Gly Phe Gly Ala Leu Gly Ala Met Gln Ile Lys Val Glu Arg Tyr
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Ala Ser Ser Lys His Gln Lys Arg Lys Lys Arg Arg Lys Arg Gln Lys
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Gly Leu Asp Ala Gly Leu Val Glu Pro Pro Arg Leu Leu Ser Ser Pro
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Asn Phe Asp Asn Asp Ser Ser Ile Trp Asn Tyr Pro Pro Asn Arg Glu
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Ile Ser Arg Asn Glu Ser Pro Tyr Ser Met Thr Lys Pro Pro Ser Ser
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Glu His Phe Pro Ser Pro Gln Gly Gly Gly Gly Gly Gly Gly Gly Gly
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Gly Gly Leu His Val Ala Ile Pro Asp Ser Val Leu Thr Pro Pro Gly
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Ala Asp Gly Ala Ala Ala Arg Lys Thr Gln Phe Gly Ala Ser Ala Thr
690 695 700

Ala Ala Leu Ala Pro Val Ala Ser Asp Pro Leu Ser Pro Pro Leu Ser
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Ala Ser Pro Arg Asp Lys His Pro Gly Asn Gly Gly Gly Gly Gly Gly
725 730 735

Gly Gly Gly Gly Ala Gly Gly Gly Gly Pro Ser Ala Ser Asn Ser Leu
740 745 750

Leu Tyr Thr Gly Asp Leu Glu Ala Leu Gln Arg Leu Gln Ala Gly Asn
755 760 765

Val Val Leu Pro Leu Val His Arg Val Thr Gly Thr Leu Ala Ala Thr
770 775 780

Ser Thr Ala Ala Gln Arg Val Tyr Thr Thr Gly Thr Ile Arg Tyr Ala
785 790 795 800

Pro Ala Glu Val Thr Leu Ala Met Gln Ser Asn Leu Leu Pro Asn Ala
805 810 815

His Ala Val Asn Phe Val Asp Val Asn Ser Pro Gly Phe Gly Leu Asp
820 825 830

Pro Lys Thr Pro Met Glu Met Leu Tyr His His Val His Arg Leu Asn
835 840 845

Met Ser Gly Pro Phe Gly Gly Ala Val Ser Ala Ala Ser Leu Thr Gln
850 855 860

Met Pro Ala Gly Asn Val Phe Thr Thr Ala Glu Gly Leu Phe Ser Thr
865 870 875 880

Leu Pro Phe Pro Val Tyr Ser Asn Gly Ile His Ala Ala Gln Thr Leu
885 890 895

Glu Arg Lys Glu Asp
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<211> 2961
<212> DNA
<213> Homo sapiens

<400> 53

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<211> 938
<212> PRT
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<400> 54

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Asn Gln Ser Glu Cys Arg Lys Ile Tyr Arg Tyr Asp Gly Ile Tyr Cys
35 40 45

Glu Ser Thr Tyr Gln Asn Leu Gln Ala Leu Arg Lys Glu Lys Ser Arg
 50 55 60

Asp Ala Ala Arg Ser Arg Arg Gly Lys Glu Asn Phe Glu Phe Tyr Glu
 65 70 75 80

Leu Ala Lys Leu Leu Pro Leu Pro Ala Ala Ile Thr Ser Gln Leu Asp
 85 90 95

Lys Ala Ser Ile Ile Arg Leu Thr Ile Ser Tyr Leu Lys Met Arg Asp
 100 105 110

Phe Ala Asn Gln Gly Asp Pro Pro Trp Asn Leu Arg Met Glu Gly Pro
 115 120 125

Pro Pro Asn Thr Ser Val Lys Gly Ala Gln Arg Arg Arg Ser Pro Ser
 130 135 140

Ala Leu Ala Ile Glu Val Phe Glu Ala His Leu Gly Ser His Ile Leu
 145 150 155 160

Gln Ser Leu Asp Gly Phe Val Phe Ala Leu Asn Gln Glu Gly Lys Phe
 165 170 175

Leu Tyr Ile Ser Glu Thr Val Ser Ile Tyr Leu Gly Leu Ser Gln Val
 180 185 190

Glu Leu Thr Gly Ser Ser Val Phe Asp Tyr Val His Pro Gly Asp His
 195 200 205

Val Glu Met Ala Glu Gln Leu Gly Met Lys Leu Pro Pro Gly Arg Gly
 210 215 220

Leu Leu Ser Gln Gly Thr Ala Glu Asp Gly Ala Ser Ser Ala Ser Ser
 225 230 235 240

Ser Ser Gln Ser Glu Thr Pro Glu Pro Val Glu Ser Thr Ser Pro Ser
 245 250 255

Leu Leu Thr Thr Asp Asn Thr Leu Glu Arg Ser Phe Phe Ile Arg Met
 260 265 270

Lys Ser Thr Leu Thr Lys Arg Gly Val His Ile Lys Ser Ser Gly Tyr
 275 280 285

Lys Val Ile His Ile Thr Gly Arg Leu Arg Leu Arg Val Ser Leu Ser

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His Gly Arg Thr Val Pro Ser Gln Ile Met Gly Leu Val Val Val Ala				
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His Ala Leu Pro Pro Pro Thr Ile Asn Glu Val Arg Ile Asp Cys His				
	325		330	335
Met Phe Val Thr Arg Val Asn Met Asp Leu Asn Ile Ile Tyr Cys Glu				
	340		345	350
Asn Arg Ile Ser Asp Tyr Met Asp Leu Thr Pro Val Asp Ile Val Gly				
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Lys Arg Cys Tyr His Phe Ile His Ala Glu Asp Val Glu Gly Ile Arg				
	370		375	380
His Ser His Leu Asp Leu Leu Asn Lys Gly Gln Cys Val Thr Lys Tyr				
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Tyr Arg Trp Met Gln Lys Asn Gly Gly Tyr Ile Trp Ile Gln Ser Ser				
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Ala Thr Ile Ala Ile Asn Ala Lys Asn Ala Asn Glu Lys Asn Ile Ile				
	420		425	430
Trp Val Asn Tyr Leu Leu Ser Asn Pro Glu Tyr Lys Asp Thr Pro Met				
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Asp Ile Ala Gln Leu Pro His Leu Pro Glu Lys Thr Ser Glu Ser Ser				
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Glu Thr Ser Asp Ser Glu Ser Asp Ser Lys Asp Thr Ser Gly Ile Thr				
465		470		475 480
Glu Asp Asn Glu Asn Ser Lys Ser Asp Glu Lys Gly Asn Gln Ser Glu				
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Asn Ser Glu Asp Pro Glu Pro Asp Arg Lys Lys Ser Gly Asn Ala Cys				
	500		505	510
Asp Asn Asp Met Asn Cys Asn Asp Asp Gly His Ser Ser Ser Asn Pro				
	515		520	525
Asp Ser Arg Asp Ser Asp Asp Ser Phe Glu His Ser Asp Phe Glu Asn				
	530		535	540

Pro Lys Ala Gly Glu Asp Gly Phe Gly Ala Leu Gly Ala Met Gln Ile
 545 550 555 560

Lys Val Glu Arg Tyr Val Glu Ser Glu Ser Asp Leu Arg Leu Gln Asn
 565 570 575

Cys Glu Ser Leu Thr Ser Asp Ser Ala Lys Asp Ser Asp Ser Ala Gly
 580 585 590

Glu Ala Gly Ala Gln Ala Ser Ser Lys His Gln Lys Arg Lys Lys Arg
 595 600 605

Arg Lys Arg Gln Lys Gly Gly Ser Ala Ser Arg Arg Arg Leu Ser Ser
 610 615 620

Ala Ser Ser Pro Gly Gly Leu Asp Ala Gly Leu Val Glu Pro Pro Arg
 625 630 635 640

Leu Leu Ser Ser Pro Asn Ser Ala Ser Val Leu Lys Ile Lys Thr Glu
 645 650 655

Ile Ser Glu Pro Ile Asn Phe Asp Asn Asp Ser Ser Ile Trp Asn Tyr
 660 665 670

Pro Pro Asn Arg Glu Ile Ser Arg Asn Glu Ser Pro Tyr Ser Met Thr
 675 680 685

Lys Pro Pro Ser Ser Glu His Phe Pro Ser Pro Gln Gly Gly Gly Gly
 690 695 700

Gly Gly Gly Gly Gly Gly Gly Gly Leu His Val Ala Ile Pro Asp Ser Val
 705 710 715 720

Leu Thr Pro Pro Gly Ala Asp Gly Ala Ala Ala Arg Lys Thr Gln Phe
 725 730 735

Gly Ala Ser Ala Thr Ala Ala Leu Ala Pro Val Ala Ser Asp Pro Leu
 740 745 750

Ser Pro Pro Leu Ser Ala Ser Pro Arg Asp Lys His Pro Gly Asn Gly
 755 760 765

Gly Gly Gly Gly Gly Gly Gly Gly Gly Ala Gly Gly Gly Gly Pro Ser
 770 775 780

Ala Ser Asn Ser Leu Leu Tyr Thr Gly Asp Leu Glu Ala Leu Gln Arg
785 790 795 800

Leu Gln Ala Gly Asn Val Val Leu Pro Leu Val His Arg Val Thr Gly
805 810 815

Thr Leu Ala Ala Thr Ser Thr Ala Ala Gln Arg Val Tyr Thr Thr Gly
820 825 830

Thr Ile Arg Tyr Ala Pro Ala Glu Val Thr Leu Ala Met Gln Ser Asn
835 840 845

Leu Leu Pro Asn Ala His Ala Val Asn Phe Val Asp Val Asn Ser Pro
850 855 860

Gly Phe Gly Leu Asp Pro Lys Thr Pro Met Glu Met Leu Tyr His His
865 870 875 880

Val His Arg Leu Asn Met Ser Gly Pro Phe Gly Gly Ala Val Ser Ala
885 890 895

Ala Ser Leu Thr Gln Met Pro Ala Gly Asn Val Phe Thr Thr Ala Glu
900 905 910

Gly Leu Phe Ser Thr Leu Pro Phe Pro Val Tyr Ser Asn Gly Ile His
915 920 925

Ala Ala Gln Thr Leu Glu Arg Lys Glu Asp
930 935

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<212> DNA
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<400> 55
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 <212> PRT
 <213> Homo sapiens

<400> 56

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Lys Asp Tyr Phe Glu Cys Ser Leu Ser Lys Ser Tyr Ser Ser Ser Ser
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Asn Thr Leu Gly Ile Asp Leu Trp Arg Gly Arg Arg Cys Cys Ser Gly
 35 40 45

Asn Leu Gln Leu Pro Pro Leu Ser Gln Arg Gln Ser Glu Arg Ala Arg
 50 55 60

Thr Pro Glu Gly Asp Gly Ile Ser Arg Pro Thr Thr Leu Pro Leu Thr
 65 70 75 80

Thr Leu Pro Ser Ile Ala Ile Thr Thr Val Ser Gln Glu Cys Phe Asp
 85 90 95

Val Glu Asn Gly Pro Ser Pro Gly Arg Ser Pro Leu Asp Pro Gln Ala
 100 105 110

Ser Ser Ser Ala Gly Leu Val Leu His Ala Thr Phe Pro Gly His Ser
 115 120 125

Gln Arg Arg Glu Ser Phe Leu Tyr Arg Ser Asp Ser Asp Tyr Asp Leu
 130 135 140

Ser Pro Lys Ala Met Ser Arg Asn Ser Ser Leu Pro Ser Glu Gln His
 145 150 155 160

Gly Asp Asp Leu Ile Val Thr Pro Phe Ala Gln Val Leu Ala Ser Leu
 165 170 175

Arg Ser Val Arg Asn Asn Phe Thr Ile Leu Thr Asn Leu His Gly Thr
 180 185 190

Ser Asn Lys Arg Ser Pro Ala Ala Ser Gln Pro Pro Val Ser Arg Val
 195 200 205

Asn Pro Gln Glu Glu Ser Tyr Gln Lys Leu Ala Met Glu Thr Leu Glu
 210 215 220

Glu Leu Asp Trp Cys Leu Asp Gln Leu Glu Thr Ile Gln Thr Tyr Arg
 225 230 235 240

Ser Val Ser Glu Met Ala Ser Asn Lys Phe Lys Arg Met Leu Asn Arg
 245 250 255

Glu Leu Thr His Leu Ser Glu Met Ser Arg Ser Gly Asn Gln Val Ser
 260 265 270

Glu Tyr Ile Ser Asn Thr Phe Leu Asp Lys Gln Asn Asp Val Glu Ile
 275 280 285

Pro Ser Pro Thr Gln Lys Asp Arg Glu Lys Lys Lys Lys Gln Gln Leu
 290 295 300

Met Thr Gln Ile Ser Gly Val Lys Lys Leu Met His Ser Ser Ser Leu
 305 310 315 320

Asn Asn Thr Ser Ile Ser Arg Phe Gly Val Asn Thr Glu Asn Glu Asp

325	330	335
His Leu Ala Lys Glu Leu Glu Asp Leu Asn Lys Trp Gly Leu Asn Ile		
340	345	350
Phe Asn Val Ala Gly Tyr Ser His Asn Arg Pro Leu Thr Cys Ile Met		
355	360	365
Tyr Ala Ile Phe Gln Glu Arg Asp Leu Leu Lys Thr Phe Arg Ile Ser		
370	375	380
Ser Asp Thr Phe Ile Thr Tyr Met Met Thr Leu Glu Asp His Tyr His		
385	390	395
Ser Asp Val Ala Tyr His Asn Ser Leu His Ala Ala Asp Val Ala Gln		
405	410	415
Ser Thr His Val Leu Leu Ser Thr Pro Ala Leu Asp Ala Val Phe Thr		
420	425	430
Asp Leu Glu Ile Leu Ala Ala Ile Phe Ala Ala Ala Ile His Asp Val		
435	440	445
Asp His Pro Gly Val Ser Asn Gln Phe Leu Ile Asn Thr Asn Ser Glu		
450	455	460
Leu Ala Leu Met Tyr Asn Asp Glu Ser Val Leu Glu Asn His His Leu		
465	470	475
Ala Val Gly Phe Lys Leu Leu Gln Glu Glu His Cys Asp Ile Phe Met		
485	490	495
Asn Leu Thr Lys Lys Gln Arg Gln Thr Leu Arg Lys Met Val Ile Asp		
500	505	510
Met Val Leu Ala Thr Asp Met Ser Lys His Met Ser Leu Leu Ala Asp		
515	520	525
Leu Lys Thr Met Val Glu Thr Lys Lys Val Thr Ser Ser Gly Val Leu		
530	535	540
Leu Leu Asp Asn Tyr Thr Asp Arg Ile Gln Val Leu Arg Asn Met Val		
545	550	555
His Cys Ala Asp Leu Ser Asn Pro Thr Lys Ser Leu Glu Leu Tyr Arg		
565	570	575

Gln Trp Thr Asp Arg Ile Met Glu Glu Phe Phe Gln Gln Gly Asp Lys
580 585 590

Glu Arg Glu Arg Gly Met Glu Ile Ser Pro Met Cys Asp Lys His Thr
595 600 605

Ala Ser Val Glu Lys Ser Gln Val Gly Phe Ile Asp Tyr Ile Val His
610 615 620

Pro Leu Trp Glu Thr Trp Ala Asp Leu Val Gln Pro Asp Ala Gln Asp
625 630 635 640

Ile Leu Asp Thr Leu Glu Asp Asn Arg Asn Trp Tyr Gln Ser Met Ile
645 650 655

Pro Gln Ser Pro Ser Pro Pro Leu Asp Glu Gln Asn Arg Asp Cys Gln
660 665 670

Gly Leu Met Glu Lys Phe Gln Phe Glu Leu Thr Leu Asp Glu Glu Asp
675 680 685

Ser Glu Gly Pro Glu Lys Glu Gly Glu Gly His Ser Tyr Phe Ser Ser
690 695 700

Thr Lys Thr Leu Cys Val Ile Asp Pro Glu Asn Arg Asp Ser Leu Gly
705 710 715 720

Glu Thr Asp Ile Asp Ile Ala Thr Glu Asp Lys Ser Pro Val Asp Thr
725 730 735

<210> 57
<211> 2163
<212> DNA
<213> Homo sapiens

<400> 57
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acatctccta aaatttctcc acgcagttca ccaaggaact caccatgctt tttcagaaaag 180
ttactgggtga ataaaagcat tcggcagcgt cgtcgcttca ctgtggctca tacatgcttt 240
gatgtggaaa atggcccttc cccaggtcgg agtccactgg atccccaggc cagctcttcc 300
gctgggctgg tacttcacgc cacctttcct gggcacagcc agcgcagaga gtcatttctc 360
tacagatcag acagcgacta tgacttgtca ccaaaggcga tgtcgagaaa ctcttctctt 420

ccaagcgagc aacacggcga tgacttgatt gtaactcctt ttgcccaggt ccttgccagc	480
ttgcgaagtg tgagaaacaa cttcactata ctgacaaacc ttcatggtac atctaacaag	540
aggtecccag ctgctagtca gcctcctgtc tccagagtca acccacaaga agaatcttat	600
caaaaattag caatggaaac gctggaggaa ttagactggg gtttagacca gctagagacc	660
atacagacct accggtctgt cagtgagatg gcttctaaca agttcaaaag aatgctgaac	720
cgggagctga cacacctctc agagatgagc cgatcaggga accaggtgtc tgaatacatt	780
tcaaatactt tcttagacaa gcagaatgat gtggagatcc catctcctac ccagaaagac	840
agggagaaaa agaaaaagca gcagctcatg acccagataa gtggagtga gaaattaatg	900
catagttcaa gcctaaacaa tacaagcatc tcacgctttg gagtcaacac tgaaaatgaa	960
gatcacctgg ccaaggagct ggaagacctg aacaaatggg gtcttaacat ctttaatgtg	1020
gctggatatt ctcaaatag acccctaaca tgcacatgt atgctatatt ccaggaaaga	1080
gacctcctaa agacattcag aatctcatct gacacattta taacctacat gatgacttta	1140
gaagaccatt accattctga cgtggcatat cacaacagcc tgcacgctgc tgatgtagcc	1200
cagtcgaccc atgttctcct ttctacacca gcattagacg ctgtcttcac agatttggag	1260
atcctggctg ccatttttgc agctgccatc catgacgttg atcatcctgg agtctccaat	1320
cagtttctca tcaacacaaa ttcagaactt gctttgatgt ataatgatga atctgtgttg	1380
gaaaatcatc accttgctgt gggtttcaaa ctgctgcaag aagaacactg tgacatcttc	1440
atgaatctca ccaagaagca gcgtcagaca ctcaggaaga tggttattga catggtgtta	1500
gcaactgata tgtctaaaca tatgagcctg ctggcagacc tgaagacaat ggtagaaacg	1560
aagaaagtta caagttcagg cgttcttctc ctagacaact ataccgatcg cattcaggtc	1620
cttcgcaaca tggtagactg tgcagacctg agcaacccca ccaagtcctt ggaattgtat	1680
cggcaatgga cagaccgcat catggaggaa tttttccagc agggagacaa agagcgggag	1740
aggggaatgg aaattagccc aatgtgtgat aaacacacag cttctgtgga aaaatcccag	1800
gttggtttca tcgactacat tgtccatcca ttgtgggaga catgggcaga tttggtacag	1860
cctgatgctc aggacattct cgatacctta gaagataaca ggaactggta tcagagcatg	1920
atacctcaaa gtccctcacc accactggac gagcagaaca gggactgccca gggctctgatg	1980
gagaagtttc agtttgaact gactctcgat gaggaagatt ctgaaggacc tgagaaggag	2040
ggagagggac acagctatct cagcagcaca aagacgcttt gtgtgattga tccagaaaac	2100
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aca	2163

<210> 58
 <211> 721
 <212> PRT
 <213> Homo sapiens

<400> 58

Met Thr Ala Lys Asp Ser Ser Lys Glu Leu Thr Ala Ser Glu Pro Glu
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Val Cys Ile Lys Thr Phe Lys Glu Gln Met His Leu Glu Leu Glu Leu
 20 25 30

Pro Arg Leu Pro Gly Asn Arg Pro Thr Ser Pro Lys Ile Ser Pro Arg
 35 40 45

Ser Ser Pro Arg Asn Ser Pro Cys Phe Phe Arg Lys Leu Leu Val Asn
 50 55 60

Lys Ser Ile Arg Gln Arg Arg Arg Phe Thr Val Ala His Thr Cys Phe
 65 70 75 80

Asp Val Glu Asn Gly Pro Ser Pro Gly Arg Ser Pro Leu Asp Pro Gln
 85 90 95

Ala Ser Ser Ser Ala Gly Leu Val Leu His Ala Thr Phe Pro Gly His
 100 105 110

Ser Gln Arg Arg Glu Ser Phe Leu Tyr Arg Ser Asp Ser Asp Tyr Asp
 115 120 125

Leu Ser Pro Lys Ala Met Ser Arg Asn Ser Ser Leu Pro Ser Glu Gln
 130 135 140

His Gly Asp Asp Leu Ile Val Thr Pro Phe Ala Gln Val Leu Ala Ser
 145 150 155 160

Leu Arg Ser Val Arg Asn Asn Phe Thr Ile Leu Thr Asn Leu His Gly
 165 170 175

Thr Ser Asn Lys Arg Ser Pro Ala Ala Ser Gln Pro Pro Val Ser Arg
 180 185 190

Val Asn Pro Gln Glu Glu Ser Tyr Gln Lys Leu Ala Met Glu Thr Leu
 195 200 205

Glu Glu Leu Asp Trp Cys Leu Asp Gln Leu Glu Thr Ile Gln Thr Tyr

210		215		220
Arg Ser Val Ser Glu Met Ala Ser Asn Lys Phe Lys Arg Met Leu Asn				
225		230	235	240
Arg Glu Leu Thr His Leu Ser Glu Met Ser Arg Ser Gly Asn Gln Val				
	245	250		255
Ser Glu Tyr Ile Ser Asn Thr Phe Leu Asp Lys Gln Asn Asp Val Glu				
	260	265		270
Ile Pro Ser Pro Thr Gln Lys Asp Arg Glu Lys Lys Lys Lys Gln Gln				
	275	280		285
Leu Met Thr Gln Ile Ser Gly Val Lys Lys Leu Met His Ser Ser Ser				
	290	295	300	
Leu Asn Asn Thr Ser Ile Ser Arg Phe Gly Val Asn Thr Glu Asn Glu				
305	310	315		320
Asp His Leu Ala Lys Glu Leu Glu Asp Leu Asn Lys Trp Gly Leu Asn				
	325	330		335
Ile Phe Asn Val Ala Gly Tyr Ser His Asn Arg Pro Leu Thr Cys Ile				
	340	345		350
Met Tyr Ala Ile Phe Gln Glu Arg Asp Leu Leu Lys Thr Phe Arg Ile				
	355	360		365
Ser Ser Asp Thr Phe Ile Thr Tyr Met Met Thr Leu Glu Asp His Tyr				
	370	375	380	
His Ser Asp Val Ala Tyr His Asn Ser Leu His Ala Ala Asp Val Ala				
385	390	395		400
Gln Ser Thr His Val Leu Leu Ser Thr Pro Ala Leu Asp Ala Val Phe				
	405	410		415
Thr Asp Leu Glu Ile Leu Ala Ala Ile Phe Ala Ala Ala Ile His Asp				
	420	425		430
Val Asp His Pro Gly Val Ser Asn Gln Phe Leu Ile Asn Thr Asn Ser				
	435	440	445	
Glu Leu Ala Leu Met Tyr Asn Asp Glu Ser Val Leu Glu Asn His His				
450	455	460		

Leu Ala Val Gly Phe Lys Leu Leu Gln Glu Glu His Cys Asp Ile Phe
 465 470 475 480

Met Asn Leu Thr Lys Lys Gln Arg Gln Thr Leu Arg Lys Met Val Ile
 485 490 495

Asp Met Val Leu Ala Thr Asp Met Ser Lys His Met Ser Leu Leu Ala
 500 505 510

Asp Leu Lys Thr Met Val Glu Thr Lys Lys Val Thr Ser Ser Gly Val
 515 520 525

Leu Leu Leu Asp Asn Tyr Thr Asp Arg Ile Gln Val Leu Arg Asn Met
 530 535 540

Val His Cys Ala Asp Leu Ser Asn Pro Thr Lys Ser Leu Glu Leu Tyr
 545 550 555 560

Arg Gln Trp Thr Asp Arg Ile Met Glu Glu Phe Phe Gln Gln Gly Asp
 565 570 575

Lys Glu Arg Glu Arg Gly Met Glu Ile Ser Pro Met Cys Asp Lys His
 580 585 590

Thr Ala Ser Val Glu Lys Ser Gln Val Gly Phe Ile Asp Tyr Ile Val
 595 600 605

His Pro Leu Trp Glu Thr Trp Ala Asp Leu Val Gln Pro Asp Ala Gln
 610 615 620

Asp Ile Leu Asp Thr Leu Glu Asp Asn Arg Asn Trp Tyr Gln Ser Met
 625 630 635 640

Ile Pro Gln Ser Pro Ser Pro Pro Leu Asp Glu Gln Asn Arg Asp Cys
 645 650 655

Gln Gly Leu Met Glu Lys Phe Gln Phe Glu Leu Thr Leu Asp Glu Glu
 660 665 670

Asp Ser Glu Gly Pro Glu Lys Glu Gly Glu Gly His Ser Tyr Phe Ser
 675 680 685

Ser Thr Lys Thr Leu Cys Val Ile Asp Pro Glu Asn Arg Asp Ser Leu
 690 695 700

Gly Glu Thr Asp Ile Asp Ile Ala Thr Glu Asp Lys Ser Pro Val Asp
 705 710 715 720

Thr

<210> 59
 <211> 4068
 <212> DNA
 <213> Homo sapiens

<400> 59
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 gtatataatg taatgttttg taagttatta atttatatat ctaacattgc ctgccaatgg 180
 tgggtgttaaa tttgtgtaga aaactctgcc taagagttac gactttttct tgtaatgttt 240
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 agaggacagg ggtgggcttt tgttcaaagg gtctgccctt tccctgcctg agttgctact 360
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 aaagcaaaat gagaaaaagc tttcctcatt tctccttgag atggcaaagc actcagaaat 480
 gacatcacat accctaaaga accctgggat gactaaggca gagagagtct gagaaaactc 540
 tttggtgctt ctgccttttag ttttaggaca catttatgca gatgagctta taagagaccg 600
 tccctccgc cttcttcctc agaggaagtt tcttggtaga tcaccgacac ctcacccagg 660
 cgggggggttg gggggaaact tggcaccagc catcccaggc agagcaccac tgtgatttgt 720
 tctcctggtg gagagagctg gaaggaagga gccagcgtgc aaataatgaa ggagcacggg 780
 ggcaccttca gtagcaccgg aatcagcggg ggtagcgggt actctgctat ggacagcctg 840
 cagccgctcc agcctaacta catgcctgtg tgtttgtttg cagaagaatc ttatcaaaaa 900
 ttagcaatgg aaacgctgga ggaattagac tgggtgtttag accagctaga gaccatacag 960
 acctaccggt ctgtcagtga gatggcttct aacaagttca aaagaatgct gaaccgggag 1020
 ctgacacacc tctcagagat gagccgatca ggggaaccagg tgtctgaata catttcaaatt 1080
 actttcttag acaagcagaa tgatgtggag atcccatctc ctaccagaa agacagggag 1140
 aaaaagaaaa agcagcagct catgaccag ataagtggag tgaagaaatt aatgcatagt 1200
 tcaagcctaa acaatacaag catctcacgc tttggagtca aactgaaaa tgaagatcac 1260
 ctggccaagg agctggaaga cctgaacaaa tggggcttta acatctttaa tgtggctgga 1320
 tattctcaca atagaccctt aacatgcac atgtatgcta tattccagga aagagacctc 1380

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aacatggtag	actgtgcaga	cctgagcaac	cccaccaagt	ccttgggaatt	gtatcggcaa	1980
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agaataaaaat	tgaacaaatt	agggggtaga	aaggagcagt	ggtgtcgttc	accgtgagag	3240

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tttgetcaca gatgattctt ctgattcttc tgaatgctcc cgaactactg actttgaaga 3960
ggtagcctcc tgctgccat taagcaggaa tgcatgttc cagttcatta caaaagaaaa 4020
caataaaaaca atgtgaattt ttataataaa aaaaaaaaaa aggaattc 4068

<210> 60
<211> 564
<212> PRT
<213> Homo sapiens

<400> 60

Met Lys Glu His Gly Gly Thr Phe Ser Ser Thr Gly Ile Ser Gly Gly
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Ser Gly Asp Ser Ala Met Asp Ser Leu Gln Pro Leu Gln Pro Asn Tyr
20 25 30

Met Pro Val Cys Leu Phe Ala Glu Glu Ser Tyr Gln Lys Leu Ala Met
35 40 45

Glu Thr Leu Glu Glu Leu Asp Trp Cys Leu Asp Gln Leu Glu Thr Ile
50 55 60

Gln Thr Tyr Arg Ser Val Ser Glu Met Ala Ser Asn Lys Phe Lys Arg
65 70 75 80

Met Leu Asn Arg Glu Leu Thr His Leu Ser Glu Met Ser Arg Ser Gly
85 90 95

Asn	Gln	Val	Ser	Glu	Tyr	Ile	Ser	Asn	Thr	Phe	Leu	Asp	Lys	Gln	Asn
			100					105					110		
Asp	Val	Glu	Ile	Pro	Ser	Pro	Thr	Gln	Lys	Asp	Arg	Glu	Lys	Lys	Lys
		115					120					125			
Lys	Gln	Gln	Leu	Met	Thr	Gln	Ile	Ser	Gly	Val	Lys	Lys	Leu	Met	His
	130					135					140				
Ser	Ser	Ser	Leu	Asn	Asn	Thr	Ser	Ile	Ser	Arg	Phe	Gly	Val	Asn	Thr
145					150					155					160
Glu	Asn	Glu	Asp	His	Leu	Ala	Lys	Glu	Leu	Glu	Asp	Leu	Asn	Lys	Trp
				165					170					175	
Gly	Leu	Asn	Ile	Phe	Asn	Val	Ala	Gly	Tyr	Ser	His	Asn	Arg	Pro	Leu
		180						185					190		
Thr	Cys	Ile	Met	Tyr	Ala	Ile	Phe	Gln	Glu	Arg	Asp	Leu	Leu	Lys	Thr
		195					200					205			
Phe	Arg	Ile	Ser	Ser	Asp	Thr	Phe	Ile	Thr	Tyr	Met	Met	Thr	Leu	Glu
	210					215					220				
Asp	His	Tyr	His	Ser	Asp	Val	Ala	Tyr	His	Asn	Ser	Leu	His	Ala	Ala
225					230					235					240
Asp	Val	Ala	Gln	Ser	Thr	His	Val	Leu	Leu	Ser	Thr	Pro	Ala	Leu	Asp
				245					250					255	
Ala	Val	Phe	Thr	Asp	Leu	Glu	Ile	Leu	Ala	Ala	Ile	Phe	Ala	Ala	Ala
			260					265					270		
Ile	His	Asp	Val	Asp	His	Pro	Gly	Val	Ser	Asn	Gln	Phe	Leu	Ile	Asn
		275					280					285			
Thr	Asn	Ser	Glu	Leu	Ala	Leu	Met	Tyr	Asn	Asp	Glu	Ser	Val	Leu	Glu
	290					295					300				
Asn	His	His	Leu	Ala	Val	Gly	Phe	Lys	Leu	Leu	Gln	Glu	Glu	His	Cys
305					310					315					320
Asp	Ile	Phe	Met	Asn	Leu	Thr	Lys	Lys	Gln	Arg	Gln	Thr	Leu	Arg	Lys
				325					330					335	
Met	Val	Ile	Asp	Met	Val	Leu	Ala	Thr	Asp	Met	Ser	Lys	His	Met	Ser

340	345	350
Leu Leu Ala Asp Leu Lys Thr Met Val Glu Thr Lys Lys Val Thr Ser		
355	360	365
Ser Gly Val Leu Leu Leu Asp Asn Tyr Thr Asp Arg Ile Gln Val Leu		
370	375	380
Arg Asn Met Val His Cys Ala Asp Leu Ser Asn Pro Thr Lys Ser Leu		
385	390	400
Glu Leu Tyr Arg Gln Trp Thr Asp Arg Ile Met Glu Glu Phe Phe Gln		
	405	410
		415
Gln Gly Asp Lys Glu Arg Glu Arg Gly Met Glu Ile Ser Pro Met Cys		
	420	425
		430
Asp Lys His Thr Ala Ser Val Glu Lys Ser Gln Val Gly Phe Ile Asp		
	435	440
		445
Tyr Ile Val His Pro Leu Trp Glu Thr Trp Ala Asp Leu Val Gln Pro		
	450	455
		460
Asp Ala Gln Asp Ile Leu Asp Thr Leu Glu Asp Asn Arg Asn Trp Tyr		
465	470	475
		480
Gln Ser Met Ile Pro Gln Ser Pro Ser Pro Pro Leu Asp Glu Gln Asn		
	485	490
		495
Arg Asp Cys Gln Gly Leu Met Glu Lys Phe Gln Phe Glu Leu Thr Leu		
	500	505
		510
Asp Glu Glu Asp Ser Glu Gly Pro Glu Lys Glu Gly Glu Gly His Ser		
	515	520
		525
Tyr Phe Ser Ser Thr Lys Thr Leu Cys Val Ile Asp Pro Glu Asn Arg		
	530	535
		540
Asp Ser Leu Gly Glu Thr Asp Ile Asp Ile Ala Thr Glu Asp Lys Ser		
545	550	555
		560
Pro Val Asp Thr		

<210> 61
 <211> 2929

<212> DNA
 <213> Homo sapiens

<400> 61
 agccatttgt gaacctggag gcttgacatt cgccagcgca gggccccaca agagaaatTT 60
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 aacogctcca aaagaggctg ggtttggaat caaatgtttg tcctggaaga gttttctgga 480
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<213> Homo sapiens

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<400> 62

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Ile Ile Leu Trp Ile Thr Leu Pro Pro Cys Ile Tyr Met Ala Pro Met
20          25          30

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Asn Gln Ser Gln Val Leu Met Ser Gly Ser Pro Leu Glu Leu Asn Ser
35          40          45

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Leu Gly Glu Glu Gln Arg Ile Leu Asn Arg Ser Lys Arg Gly Trp Val
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Trp Asn Gln Met Phe Val Leu Glu Glu Phe Ser Gly Pro Glu Pro Ile
 65 70 75 80

Leu Val Gly Arg Leu His Thr Asp Leu Asp Pro Gly Ser Lys Lys Ile
 85 90 95

Lys Tyr Ile Leu Ser Gly Asp Gly Ala Gly Thr Ile Phe Gln Ile Asn
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Asp Val Thr Gly Asp Ile His Ala Ile Lys Arg Leu Asp Arg Glu Glu
 115 120 125

Lys Ala Glu Tyr Thr Leu Thr Ala Gln Ala Val Asp Trp Glu Thr Ser
 130 135 140

Lys Pro Leu Glu Pro Pro Ser Glu Phe Ile Ile Lys Val Gln Asp Ile
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Asn Asp Asn Ala Pro Glu Phe Leu Asn Gly Pro Tyr His Ala Thr Val
 165 170 175

Pro Glu Met Ser Ile Leu Gly Thr Ser Val Thr Asn Val Thr Ala Thr
 180 185 190

Asp Ala Asp Asp Pro Val Tyr Gly Asn Ser Ala Lys Leu Val Tyr Ser
 195 200 205

Ile Leu Glu Gly Gln Pro Tyr Phe Ser Ile Glu Pro Glu Thr Ala Ile
 210 215 220

Ile Lys Thr Ala Leu Pro Asn Met Asp Arg Glu Ala Lys Glu Glu Tyr
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Leu Val Val Ile Gln Ala Lys Asp Met Gly Gly His Ser Gly Gly Leu
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Ser Gly Thr Thr Thr Leu Thr Val Thr Leu Thr Asp Val Asn Asp Asn
 260 265 270

Pro Pro Lys Phe Ala Gln Ser Leu Tyr His Phe Ser Val Pro Glu Asp
 275 280 285

Val Val Leu Gly Thr Ala Ile Gly Arg Val Lys Ala Asn Asp Gln Asp

290		295		300
Ile Gly Glu Asn Ala Gln Ser Ser Tyr Asp	Ile Ile Asp Gly Asp Gly			
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Thr Ala Leu Phe Glu Ile Thr Ser Asp Ala Gln Ala Gln Asp Gly Ile				
	325	330	335	
Ile Arg Leu Arg Lys Pro Leu Asp Phe Glu Thr Lys Lys Ser Tyr Thr				
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Leu Lys Val Glu Ala Ala Asn Val His Ile Asp Pro Arg Phe Ser Gly				
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Arg Gly Pro Phe Lys Asp Thr Ala Thr Val Lys Ile Val Val Glu Asp				
	370	375	380	
Ala Asp Glu Pro Pro Val Phe Ser Ser Pro Thr Tyr Leu Leu Glu Val				
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His Glu Asn Ala Ala Leu Asn Ser Val Ile Gly Gln Val Thr Ala Arg				
	405	410	415	
Asp Pro Asp Ile Thr Ser Ser Pro Ile Arg Phe Ser Ile Asp Arg His				
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Thr Asp Leu Glu Arg Gln Phe Asn Ile Asn Ala Asp Asp Gly Lys Ile				
	435	440	445	
Thr Leu Ala Thr Pro Leu Asp Arg Glu Leu Ser Val Trp His Asn Ile				
	450	455	460	
Thr Ile Ile Ala Thr Glu Ile Arg Asn His Ser Gln Ile Ser Arg Val				
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Pro Val Ala Ile Lys Val Leu Asp Val Asn Asp Asn Ala Pro Glu Phe				
	485	490	495	
Ala Ser Glu Tyr Glu Ala Phe Leu Cys Glu Asn Gly Lys Pro Gly Gln				
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Val Ile Gln Thr Val Ser Ala Met Asp Lys Asp Asp Pro Lys Asn Gly				
	515	520	525	
His Tyr Phe Leu Tyr Ser Leu Leu Pro Glu Met Val Asn Asn Pro Asn				
530	535	540		

Phe Thr Ile Lys Lys Asn Glu Asp Asn Ser Leu Ser Ile Leu Ala Lys
545 550 555 560

His Asn Gly Phe Asn Arg Gln Lys Gln Glu Val Tyr Leu Leu Pro Ile
565 570 575

Ile Ile Ser Asp Ser Gly Asn Pro Pro Leu Ser Ser Thr Ser Thr Leu
580 585 590

Thr Ile Arg Val Cys Gly Cys Ser Asn Asp Gly Val Val Gln Ser Cys
595 600 605

Asn Val Glu Ala Tyr Val Leu Pro Ile Gly Leu Ser Met Gly Ala Leu
610 615 620

Ile Ala Ile Leu Ala Cys Ile Ile Leu Leu Leu Val Ile Val Val Leu
625 630 635 640

Phe Val Thr Leu Arg Arg His Lys Asn Glu Pro Leu Ile Ile Lys Asp
645 650 655

Asp Glu Asp Val Arg Glu Asn Ile Ile Arg Tyr Asp Asp Glu Gly Gly
660 665 670

Gly Glu Glu Asp Thr Glu Ala Phe Asp Ile Ala Thr Leu Gln Asn Pro
675 680 685

Asp Gly Ile Asn Gly Phe Leu Pro Arg Lys Asp Ile Lys Pro Asp Leu
690 695 700

Gln Phe Met Pro Arg Gln Gly Leu Ala Pro Val Pro Asn Gly Val Asp
705 710 715 720

Val Asp Glu Phe Ile Asn Val Arg Leu His Glu Ala Asp Asn Asp Pro
725 730 735

Thr Ala Pro Pro Tyr Asp Ser Ile Gln Ile Tyr Gly Tyr Glu Gly Arg
740 745 750

Gly Ser Val Ala Gly Ser Leu Ser Ser Leu Glu Ser Thr Thr Ser Asp
755 760 765

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Arg Leu Gly Glu Leu Tyr Ser Val Gly Glu Ser Asp Lys Glu Thr
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Asn Gln Ser Gln Val Leu Met Ser Gly Ser Pro Leu Glu Leu Asn Ser
 35 40 45

Leu Gly Glu Glu Gln Arg Ile Leu Asn Arg Ser Lys Arg Gly Trp Val
 50 55 60

Trp Asn Gln Met Phe Val Leu Glu Glu Phe Ser Gly Pro Glu Pro Ile
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 aatgcaccag agtttcttaa tggaccctat catgctactg tgccagaaat gtccattttg 360
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 gcaaagttgg tttatagtat attggaaggg cagccttatt tttccattga gcctgaaaca 480
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acagtgactc ttactgatgt taatgacaat cctccaaaat ttgcacagag cctgtatcac 660
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 gacccacgct tcagtggcag ggggcccttt aaagacacgg cgacagtcaa aatcgtggtt 960
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Lys Ile Lys Tyr Ile Leu Ser Gly Asp Gly Ala Gly Thr Ile Phe Gln
 35 40 45

Ile Asn Asp Val Thr Gly Asp Ile His Ala Ile Lys Arg Leu Asp Arg
 50 55 60

Glu Glu Lys Ala Glu Tyr Thr Leu Thr Ala Gln Ala Val Asp Trp Glu
 65 70 75 80

Thr Ser Lys Pro Leu Glu Pro Pro Ser Glu Phe Ile Ile Lys Val Gln
 85 90 95

Asp Ile Asn Asp Asn Ala Pro Glu Phe Leu Asn Gly Pro Tyr His Ala
 100 105 110

Thr Val Pro Glu Met Ser Ile Leu Gly Thr Ser Val Thr Asn Val Thr
 115 120 125

Ala Thr Asp Ala Asp Asp Pro Val Tyr Gly Asn Ser Ala Lys Leu Val
 130 135 140

Tyr Ser Ile Leu Glu Gly Gln Pro Tyr Phe Ser Ile Glu Pro Glu Thr
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 Ala Ile Ile Lys Thr Ala Leu Pro Asn Met Asp Arg Glu Ala Lys Glu
 165 170 175
 Glu Tyr Leu Val Val Ile Gln Ala Lys Asp Met Gly Gly His Ser Gly
 180 185 190
 Gly Leu Ser Gly Thr Thr Thr Leu Thr Val Thr Leu Thr Asp Val Asn
 195 200 205
 Asp Asn Pro Pro Lys Phe Ala Gln Ser Leu Tyr His Phe Ser Val Pro
 210 215 220
 Glu Asp Val Val Leu Gly Thr Ala Ile Gly Arg Val Lys Ala Asn Asp
 225 230 235 240
 Gln Asp Ile Gly Glu Asn Ala Gln Ser Ser Tyr Asp Ile Ile Asp Gly
 245 250 255
 Asp Gly Thr Ala Leu Phe Glu Ile Thr Ser Asp Ala Gln Ala Gln Asp
 260 265 270
 Gly Ile Ile Arg Leu Arg Lys Pro Leu Asp Phe Glu Thr Lys Lys Ser
 275 280 285
 Tyr Thr Leu Lys Val Glu Ala Ala Asn Val His Ile Asp Pro Arg Phe
 290 295 300
 Ser Gly Arg Gly Pro Phe Lys Asp Thr Ala Thr Val Lys Ile Val Val
 305 310 315 320
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9